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1 NOV 1982

Hazard Ranking System (HRS) Scores for Region 9 Sites

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Chief, Remedial Response System (T-3-1)

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Enclosed are the HRS scoring forms and documentation records for the Insular Territory sites. Please be reminded that these sites are the states' highest priority sites. The information is being transmitted per your request and the June 28, 1982 Guidance for Establishing the National Priority List.

The Insular Territory sites and respective HRS scores for which information has been forwarded are as follows:

Site Name, State	Total Score
PCB Wastes, Trust Territory of the Pacific Islands	32.6
Taputimu Farm, American Samoa	28.62
Ordot Landfill, Guam	15.65
PCB Warehouse, Commonwealth of the Northern Marianas	0.0

Site investigations have not been performed and the information we have submitted is not complete. However, we will continue to obtain and verify information as we proceed with the remedial investigation/feasibility study of these highest priority sites scheduled to begin November 3, 1982.

If you have any questions please contact me at at FTS 454-7076.

T-3-1:Young:dw:8142:11/1:846A

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Facility name: ORDOT LANDFILL

Location: GUAM

EPA Region: Region IX

Person(s) in charge of the facility: Territorial Government of Guam

Name of Reviewer: Marvin W.H. Young Date: 10-25-82

General description of the facility:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Scores: S_M = 15.65 (S_{gw} = 25.75 S_{sw} = 8.39 S_a = 0.0)

S_{FE} =

S_{DC} =

FIGURE 1
HRS COVER SHEET

Ground Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	(0) 45	1	0	45	3.1
If observed release is given a score of 45, proceed to line 4. If observed release is given a score of 0, proceed to line 2.					
2 Route Characteristics					3.2
Depth to Aquifer of Concern	(0) 1 2 3	2	0	6	
Net Precipitation	0 1 2 (3)	1	3	3	
Permeability of the Unsaturated Zone	0 1 (2) 3	1	2	3	
Physical State	0 (1) 2 3	1	1	3	
Total Route Characteristics Score			6	15	
3 Containment	0 1 2 (3)	1	3	3	3.3
4 Waste Characteristics					3.4
Toxicity/Persistence	0 3 6 9 12 15 (18)	1	18	18	
Hazardous Waste Quantity	0 1 (2) 3 4 5 6 7 8	1	2	8	
Total Waste Characteristics Score			20	26	
5 Targets					3.5
Ground Water Use	0 1 (2) 3	3	6	9	
Distance to Nearest Well/Population Served	0 4 6 8 10 / 12 16 18 20 / 24 30 32 (35) 40	1	35	40	
Total Targets Score			41	49	
6 If line 1 is 45, multiply 1 x 4 x 5 / If line 1 is 0, multiply 2 x 3 x 4 x 5			14,760	57,330	
7 Divide line 6 by 57,330 and multiply by 100			S_{gw} = 25.75		

FIGURE 2
GROUND WATER ROUTE WORK SHEET

Surface Water Route Work Sheet						
Rating Factor	Assigned Value (Circle One)		Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	0	(45)	1	45	45	4.1
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2.						
2 Route Characteristics						4.2
Facility Slope and Intervening Terrain	0 1 2 3		1		3	
1-yr. 24-hr. Rainfall	0 1 2 3		1		3	
Distance to Nearest Surface Water	0 1 2 3		2		6	
Physical State	0 1 2 3		1		3	
Total Route Characteristics Score					15	
3 Containment	0 1 2 3		1		3	4.3
4 Waste Characteristics						4.4
Toxicity/Persistence	0 3 6 9 12 15 (18)		1	18	18	
Hazardous Waste Quantity	0 1 (2) 3 4 5 6 7 8		1	2	8	
Total Waste Characteristics Score				20	26	
5 Targets						4.5
Surface Water Use	0 1 (2) 3		3	6	9	
Distance to a Sensitive Environment	(0) 1 2 3		2	0	6	
Population Served/Distance to Water Intake Downstream	(0) 4 6 8 10 / 12 16 18 20 / 24 30 32 35 40		1	0	40	
Total Targets Score				6	55	
6 If line 1 is 45, multiply 1 x 4 x 5 / If line 1 is 0, multiply 2 x 3 x 4 x 5				5,400	64,350	
7 Divide line 6 by 64,350 and multiply by 100			S_{SW} =	8.39		

FIGURE 7
SURFACE WATER ROUTE WORK SHEET

Air Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
[1] Observed Release	(0) 45	1	(0)	45	5.1
Date and Location:					
Sampling Protocol:					
If line [1] is 0, the S_a = 0. Enter on line [5]. If line [1] is 45, then proceed to line [2].					
[2] Waste Characteristics					5.2
Reactivity and Incompatibility	0 1 2 3	1		3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
	Total Waste Characteristics Score			20	
[3] Targets					5.3
Population Within 4-Mile Radius	0 9 12 15 18 21 24 27 30	1		30	
Distance to Sensitive Environment	0 1 2 3	2		6	
Land Use	0 1 2 3	1		3	
	Total Targets Score			39	
[4] Multiply [1] x [2] x [3]				35,100	
[5] Divide line [4] by 35,100 and multiply by 100		S_a =			

FIGURE 9
AIR ROUTE WORK SHEET

	S	S^2
Groundwater Route Score (S_{gw})	25.75	663.06
Surface Water Route Score (S_{sw})	8.39	70.39
Air Route Score (S_a)	0.0	0.0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		733.45
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		27.08
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		15.65

FIGURE 10
WORKSHEET FOR COMPUTING S_M

Fire and Explosion Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Containment	1 3	1		3	7.1
2 Waste Characteristics					7.2
Direct Evidence	0 3	1		3	
Ignitability	0 1 2 3	1		3	
Reactivity	0 1 2 3	1		3	
Incompatibility	0 1 2 3	1		3	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Waste Characteristics Score				20	
3 Targets					7.3
Distance to Nearest Population	0 1 2 3 4 5	1		5	
Distance to Nearest Building	0 1 2 3	1		3	
Distance to Sensitive Environment	0 1 2 3	1		3	
Land Use	0 1 2 3	1		3	
Population Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Buildings Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Total Targets Score				24	
4 Multiply 1 x 2 x 3				1,440	
5 Divide line 4 by 1,440 and multiply by 100		S_{FE} =			

FIGURE 11
FIRE AND EXPLOSION WORK SHEET

Direct Contact Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Incident	0 45	1		45	8.1
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	0 1 2 3	1		3	8.2
3 Containment	0 15	1		15	8.3
4 Waste Characteristics Toxicity	0 1 2 3	5		15	8.4
5 Targets					8.5
Population Within a 1-Mile Radius	0 1 2 3 4 5	4		20	
Distance to a Critical Habitat	0 1 2 3	4		12	
Total Targets Score				32	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5				21,600	
7 Divide line 6 by 21,600 and multiply by 100		S_{DC} =			

FIGURE 12
DIRECT CONTACT WORK SHEET

June 28, 1982

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

INSTRUCTIONS: The purpose of these records is to provide a convenient way to prepare an auditable record of the data and documentation used to apply the Hazard Ranking System to a given facility. As briefly as possible summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference that will make the document used for a given data point easier to find. Include the location of the document and consider appending a copy of the relevant page(s) for ease in review.

FACILITY NAME: Ordot Landfill

LOCATION: Guam

References:

1. MITRE MODEL (SUPERFUND) VERIFICATION prepared by Dan Cryster

Net Precipitation

Mean annual or seasonal precipitation (list months for seasonal):

Mean annual lake or seasonal evaporation (list months for seasonal):

Net precipitation (subtract the above figures):

> +15 inches/year Ref. no. 1, page 2, item 2.

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

$> 10^{-3}$ cm/sec Ref. 1, item 3.

Permeability associated with soil type:

10^{-4} cm/sec Ref. 1, item 3.

Physical State

Physical state of substances at time of disposal (or at present time for generated gases):

Solid, unconsolidated, unstabilized. Ref. 1, items 5-8.

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5 TARGETS

Ground Water Use

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility:

Potable water. Ref 1, item 9.

Distance to Nearest Well

Location of nearest well drawing from aquifer of concern or occupied building not served by a public water supply:

2,500 ft. Ref. 1, item 10.

Distance to above well or building:

Population Served by Ground Water Wells Within a 3-Mile Radius

Identified water-supply well(s) drawing from aquifer(s) of concern within a 3-mile radius and populations served by each:

Computation of land area irrigated by supply well(s) drawing from aquifer(s) of concern within a 3-mile radius, and conversion to population (1.5 people per acre):

Total population served by ground water within a 3-mile radius:

> 10,000 Ref. 1, item 11

Is the facility completely surrounded by areas of higher elevation?

1-Year 24-Hour Rainfall in Inches

Distance to Nearest Downslope Surface Water

Physical State of Waste

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Method with highest score:

Is there tidal influence?

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

Distance to critical habitat of an endangered species or national wildlife refuge, if 1 mile or less:

Population Served by Surface Water

Location(s) of water-supply intake(s) within 3 miles (free-flowing bodies) or 1 mile (static water bodies) downstream of the hazardous substance and population served by each intake:

AIR ROUTE

1 OBSERVED RELEASE No documented evidence.

Contaminants detected:

Date and location of detection of contaminants

Methods used to detect the contaminants:

Rationale for attributing the contaminants to the site:

* * *

2 WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound:

Most incompatible pair of compounds:

Distance to critical habitat of an endangered species, if 1 mile or less:

Land Use

Distance to commercial/industrial area, if 1 mile or less:

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

Distance to residential area, if 2 miles or less:

Distance to agricultural land in production within past 5 years, if 1 mile or less:

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?